It is interesting to speculate upon the etiologic classification of the case here reported and upon how long the abscess had been present. As the urine was normal, as no abnormality was observed in a urogram, and as the kidney was normal to palpation, it is improbable that the abscess was of renal origin. The intestinal tract was normal and so was the lumbosacral spine. Therefore, the common foci were not present there. In all probability, the lesion was lymphogenous, beginning from lymphadenitis of the psoas region three years previously, the nodes then gradually breaking down and forming a sterile abscess which remained dormant during the intervening years. Eventually, perhaps under the stimulus of upper respiratory tract infection, the abscess spread rapidly along the established anatomical planes, causing the symptoms noted.

In the acute phase, most of the salient features of pyogenic psoas abscess were present:

1. There was pain and a mass in the right lower quadrant of the abdomen, together with evidence of sepsis.

2. Fixation of the hip in flexion—a sign that occurred in 58 per cent of the cases reported by Bahn—was not present. Edema of the leg, which was not present in any of Bahn's patients, was noted in the present case. This edema was undoubtedly due to pressure on the pelvic veins.

3. There was roentgenologic evidence of a tumor pressing on the ascending colon and there was partial obliteration of the psoas shadow. The curvature of the spine that has been described in reports of psoas abscess was not present.

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Infectious Mononucleosis

With Report of Four Cases

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INFECTIOUS mononucleosis is of interest because it may simulate many other disease syndromes. Interest in the disease has also been stimulated by recent reports of fatalities[5, 11, 18] from what had been described previously as an invariably benign illness. It therefore seems worthwhile to review some of the protean manifestations of this disease.

Correct diagnosis is essential in differentiating this usually benign condition from such malignant diseases as acute leukemia. It may also be important in explaining such vague symptoms as weakness and fatigue.[2]

The diagnosis of mononucleosis depends on a high degree of suspicion on the part of the examining physician. The manifestations are protean because the characteristic perivascular infiltration of abnormal lymphocytes may occur in various organs and systems in different cases.[3]

The disease may present itself as a generalized illness or it may involve a particular system. The most common manifestations are summarized in Table 1. Each may occur alone, although combinations of the various types of symptoms are more usual.[17]

Anginose mononucleosis may be confused with ordinary "sore throat," with hemolytic streptococcal sore throat, or with diphtheria. The following case from the records of the University of California Hospital is typical.

CASE REPORT

CASE 1: A 27-year-old woman had severe sore throat, fever, and membranous pharyngitis suspicious enough to justify administration of diphtheria antitoxin. A leukocyte differential count of 61 per cent lymphocytes, including 20 per cent atypical cells, and a heterophil antibody titer of 1:3584 established a diagnosis of mononucleosis.

Fever commonly accompanies some of the other manifestations, although it may occur as the chief symptom. Thus, mononucleosis is one of the causes of "fever of undetermined origin." In the following two cases taken from the records of University of California Hospital, diagnoses of typhoid fever and bacterial endocarditis, respectively, were seriously considered until the true diagnosis of mononucleosis was established.

CASE REPORTS

CASE 2: A 26-year-old male dental student was admitted to the hospital the first day of a febrile illness. Lymph nodes and spleen did not become enlarged.

Positive agglutination with "H" and "O" antigens at 1:320 dilution, in association with leukopenia (3,600 leukocytes per cu. mm.), led to strong suspicion of typhoid fever. The patient became afebrile in the second week of illness, the lymphocytes increased to 44 per cent of the number of leukocytes, with several atypical forms, and the heterophil titer rose from 1:28 initially to 1:112. The patient was discharged from the hospital with a diagnosis of mononucleosis.

CASE 3: A 43-year-old male, who had had rheumatic fever repeatedly in childhood and had been followed in the cardiac clinic for aortic and mitral valvulitis, reported to the clinic with complaint of chills and fever of one week's duration. Because of the presence of splenomegaly and a single splinter hemorrhage, a diagnosis of subacute bacterial endocarditis was entertained and immediate hospitalization was arranged. There was no pathogenic bacterial growth on five blood cultures. The heterophil antibody titer was 1:448.

TABLE 1.—*Symptoms of Various Kinds of Infectious Mononucleosis*

Type	Symptoms
Anginose	Sore throat
Febrile	Chills, fever, sweats, malaise
Glandular	Tender, painful nodes
Pulmonary	Cough, chest pain, x-ray findings as in atypical pneumonia
Abdominal	Pain, nausea, vomiting
Hepatic	Anorexia, nausea, vomiting, icterus
Central nervous system	Headache, stiff neck, paralysis
Eruptive	Rash resembling rubella, scarlet fever, etc.
Insidious	Fatigue, malaise
Hemorrhagic	Bleeding
Tumorous	Tumefaction

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Fever and splenomegaly subsided spontaneously, and the patient was discharged 12 days later with a diagnosis of mononucleosis.

Glandular enlargement is such a common occurrence in this condition that the disease was originally described as glandular fever. The cervical nodes are most commonly affected, but the adenopathy may be generalized and is at times quite painful.

Although cough is common, demonstrable pulmonary involvement is rare. When present, the pulmonary lesion may simulate primary atypical pneumonia clinically and radiologically. In this connection, Seifert[9] noted cold agglutinin titers of 1:32 or higher (which are usually considered diagnostic of atypical pneumonia) in a high percentage of patients with mononucleosis who had no symptoms of pneumonia.

Mononucleosis of the abdominal type may closely simulate acute appendicitis or other abdominal conditions necessitating surgical treatment.[7] Spontaneous rupture of the spleen, which has been weakened by lymphocytic infiltration, dissolution of trabeculae, and thinning of the capsule, has been reported in several cases. It usually occurs in the third week of illness and at times is apparently precipitated by too vigorous palpation.[11, 15]

Hepatic mononucleosis has been the subject of several recent publications. It resembles ordinary infectious hepatitis, both clinically and pathologically. Almost every patient with mononucleosis has some diminution of liver function,[11] but only a few have clinical signs of jaundice.[16] The jaundice usually lasts about three weeks, although Abrams[1] described one patient with intense jaundice which persisted over 11 weeks. The following case is typical of mononucleosis of the hepatic type.

CASE REPORT

CASE 4: A 26-year-old male medical student had fever for one week and was then afebrile for two weeks in the hospital. Hepatomegaly developed. In a bromsulfalein test there was 6 per cent retention at one hour and a thymol turbidity test reading was 21 units (normal 0-7 units). Lymphocytosis (66 per cent, with 10 per cent atypical forms) and a heterophil titer of 1:1792 proved the hepatitis was associated with infectious mononucleosis.

Central nervous system involvement, with clinical manifestations of benign lymphocytic meningitis, encephalitis, peripheral neuropathy, Guillain-Barre syndrome, or bulbar poliomyelitis, has been described with increasing frequency in recent years.[12, 18] Slade[10] reported on two soldiers with mononucleosis who were discharged from the Army because of persistent nervous system damage. Other investigators have reported cases in which death resulted from respiratory paralysis. Piel[8] described a case of infectious mononucleosis complicated by serous meningitis, encephalomyelitis and bilateral papilledema. Dolgopol[5] has recommended determination of heterophil titer in all acute neurological conditions of obscure cause. Tidy[14] noted that clinical involvement of the nervous system may precede, accompany or follow the hematologic changes characteristic of mononucleosis.

Hemorrhagic manifestations are rare in mononucleosis and should ordinarily suggest another diagnosis, such as acute leukemia, but Dameshek[4] and Wallerstein and Madison[16] reported cases of mononucleosis with thrombopenia and purpura. Thompson[13] described frank hematuria as a manifestation of infectious mononucleosis.

Tumefaction, other than enlargement of nodes, spleen, or liver, is a rarity in this disease, but Lucia[6] described a patient with cauliflower-like growths on the cervix which were thought to be neoplastic but were found to be caused by mononucleosis. Subsequently the growths disappeared spontaneously.

The myocardium may be involved in mononucleosis. Electrocardiographic changes indicating myocarditis are known to occur. Focal myocarditis has been observed at autopsy, and in at least one case death was attributed to myocardial involvement.

Infectious mononucleosis should be considered in a variety of clinical pictures. The presence of characteristic hematologic changes or heterophil titer may confirm the diagnosis.

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